Could Watson become a CMA's best friend?

How advances in computer analytics could help CMAs work smarter

More than just a TV trick, IBM's Watson could prove to be a powerful partner

By **Jacob Stoller**

WATSON, THE COMPUTER SYSTEM that prevailed over the best human players of the quiz show *Jeopardy!,* is causing some unease in professional circles. In fact, IBM team members have to refrain from humorously referring to Watson's medical version as "Dr. Watson" amid public misapprehension that the system is intended to replace physicians.

But could Watson's data-crunching skills make it a valuable partner for CMAs? That's the question we posed as we dug beneath Watson's television tricks to take a look at the analytical skills embedded in its program.

A natural reader

Unlike Big Blue, IBM's earlier system which defeated world chess champion Garry Kasparov, Watson displays a phenomenal facility with natural (human) language. The system not only receives and responds to verbal queries, but also peruses the same sources humans use — encyclo-pedias, atlases and textbooks — in their native formats.

On the quiz show, Watson had access to 200 million pages of data. To the awe of viewers, the system consistently extracted the right answers from this huge storehouse fast enough to sound the buzzer within three seconds.

What's particularly eerie is that Watson can think — sort of. Using an algorithmic structure called DeepQA, the system arrives at answers to verbal questions by statistically testing multiple possibilities and ranking them according to degree of confidence. Watson "thinks" through each question. There's no playbook of pre-set answers.

"Watson learns from experience," says Dr. Martin Kohn, chief medical scientist, Care Delivery Systems, at IBM Research. "It will get better as time goes, just as it got better the more it practised playing *Jeopardy!*" On the show, Watson learned from incorrect answers from other contestants. Indeed, it learns faster — and becomes more helpful — with increased interaction.

More data, more easily

Off the set, IBM describes Watson as "a workload optimized system designed for complex analytics." To create a management accounting version, the general knowledge sources from *Jeopardy!* could be replaced with accounting textbooks, financial journals, annual reports, blogs and news websites, not to mention the entire databases of an organization's financial, HR, manufacturing, customer service and even email systems.

In a management accounting scenario, Watson would be used with other programs. Many of these com-bined capabilities would be familiar to CMAs who have used advanced analytic tools. The real advance here would be the relative ease of applying these capabilities to complex situations.

"One of the biggest challenges in finance is that there's lots of data, and it comes from a lot of different sources," says Delbert Krause, business unit executive, Finance, for IBM Canada. This means that analysts spend much of their time — 60 to 80 per cent according to some studies — setting up queries, building spreadsheets and formatting reports. "In theory, something like Watson should be able to do all that work for you," says Krause.

But this isn't just about saving time. Freedom from data-handling chores

and limitations would mean analysts could ask more questions and, as a result, create reports that provide higher value to the business.

For example, instead of designing a query, an analyst could simply ask the system to look at the revenue numbers from a particular product line. If there was a large variance between plan and actual, the analyst could try to find out

more frequently to not only analyze the past, but also help decision makers respond to change.

"One important area is being able to anticipate change in market behaviour," says Pierce. "You look at data and see trends. And if you extrapolate those or predict where they're going, you can correct things that are not working, such as a pricing model."

risk side, or what's going wrong," says Pierce. "Analytics can help point you to what things are working, and then you can think about how you might capitalize on those things."

Pierce cites two examples: identifying and replicating profitable customer relationships, and identifying pockets of efficiency, such as stand-out branches or departments.

"You're looking for best practices," says Pierce. "You're searching all over the place, internally and externally, to find benchmarking opportunities."

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why, perhaps by asking the system to show other months where the numbers had been similar. "You might even start to ask questions about the economy in terms of specific indicators — CPI indexes, price of fuel or something like that," says Krause.

Anticipating, not just analyzing
Janet Pierce, vice-president of Professional Programs for CMA Ontario, sees CMAs use analytic tools

With the improved query capabilities that systems such as Watson can provide, this kind of inquiry could include factors that are frequently overlooked, such as customer complaints, and external information from news media, websites, blogs, and comments on Twitter, Facebook and other social media.

One of the best applications for this capability is in the quest for better and more profitable business practices. "A lot of people tend to look only at the

Watson as a CMA?
Ultimately, the value in analytic systems is in empowering humans to spend less time reporting and more time improving the business.

"I don't think a system like Watson can determine for sure why something is working," says Pierce. "But it can flag opportunities. It can very quickly point to where humans can most effectively spend their time."

Could a system such as Watson become a CMA? Not likely, says Pierce. "Watson can't read body language with people around the table, and Watson can't build relationships, so it wouldn't get far in the Professional Program." ◾

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